P6LX-A+ Mainboard
User's Manual

FCC & DOC Compliance

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning! The use of shielded cables for the connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Version 1.0

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In This Section:

About This Manual
Package Contents
Mainboard Features
Component Information

1: P6LX-A+ Package & Product Information

This manual contains all the information you'll need to use the P6LX-A+ mainboard. Please take a moment to familiarize yourself with the design and organization of the manual.

Manual Features

This manual is divided into four sections:

- Section 1: Package & Product Information
  A brief overview of what comes in the mainboard package, its basic features, layout and component information.
- Section 2: Using Your Mainboard
  Information on mainboard features that you may make use of in operating your computer.
- Section 3: Reconfiguring Your Mainboard
  How to change or upgrade the mainboard configuration.
- Section 4: Reference Information
  A summary of the mainboard's settings and specifications.

The manual uses some icons to call your attention to important information. The icons appear in the sidebar and represent the following:

- Important information

- A recommendation or good idea

- A warning or bad idea

- Danger warning

Online Manual Format

If the support disk for your mainboard is a CD-ROM disc, a copy of the printed manual may be stored on the disc in Adobe Acrobat format. If so, it requires Adobe Acrobat Reader version 3.0 or later to view it. Acrobat Reader for Microsoft Windows95 may also be supplied on the Support Disk. If not, you can obtain a free copy of the Reader software from the Abobe web site which is currently at www.adobe.com as well as other locations.

If you have the online manual, you may want to install Acrobat Reader on your system hard disk. You can copy the manual over as well so that the manual is readily available without having to hunt up the Support Disk when you want to view it.

If you are unfamiliar with Acrobat Reader, please take a moment to view the Reader Online Guide which is available under the Help menu when you run Reader.

Package Contents

The P6LX-A+ mainboard package contains the following items. Please inspect the package contents and confirm that everything is there. If anything is missing or damaged, call your vendor for instructions before proceeding. The package includes:

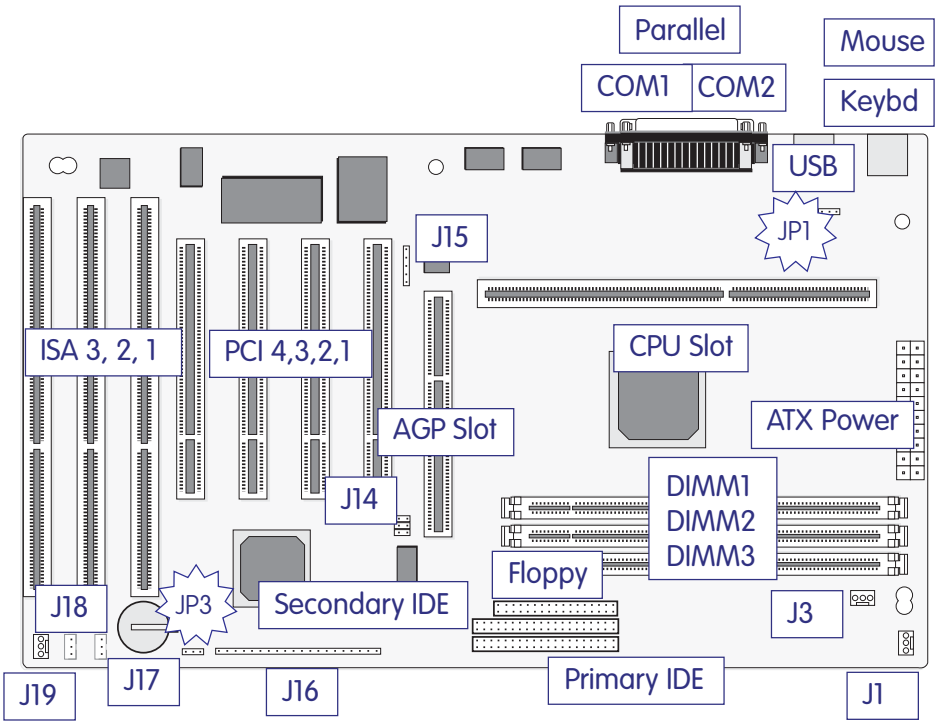
- P6LX-A+ Mainboard
- Cable Pack:
  – 1 Floppy cable
  – 1 IDE cable
- Support Disk:
  – IDE Bus Master Drivers
  – Infrared Module support software

The mainboard comes with IDE Bus Master drivers for several Operating Systems. The drivers are organized in individual folders by OS. In each folder there is a "readme" file that explains how to install the driver. Please locate the folder for the driver you need and check this file.

Mainboard Features

This mainboard is a highly integrated ATX design that incorporates many features on the board. The mainboard includes the following features:

- Slot 1 CPU slot supports Pentium II CPUs up to 333MHz
- Intel 82440LX (PAC) and 82371AB (PIIX4) chipsets
- Super I/O chip
- NS LM78 Microprocessor System Hardware Monitor
  – Supports LANDesk Client Manager PC Health Monitor
- Memory module sockets:
  – 3 DIMM sockets support up to 512MB SDRAM or 1GB EDO DRAM
- External Ports
  – COM1 & COM2 serial ports, Parallel port
  – PS/2 Mouse & Keyboard connectors, dual USB ports
- Expansion Card Slots
  – Four PCI 2.1–compliant PCI slots
  – Three 16-bit ISA slots (ISA1 shares with PCI4)
  – One AGP (Accelerated Graphics Port) slot
- Mini ATX-size circuit board
  – 7.4" (18.8cm) x 12" (30.5cm)



P6LX-A+ Layout

The illustration above shows the connectors, sockets and ports and the mainboard.
The COM1 and COM2 ports are underneath the Parallel port.

The USB ports and the PS/2 ports – Keyboard (lower) and Mouse (upper) – are stacked one above the other.
Please see pages 4.5 & 4.6 for a full list of the onboard connectors.

Component Information

This section is a brief description of the components on the mainboard that you might need to know about if you want to upgrade or change your system configuration. If your mainboard is already installed in a system, it isn't necessary for you to review this section.

This mainboard uses the Mini-ATX 'form factor' in a design that integrates many features onto the board including a number of external ports.

Expansion Slots

The mainboard has seven expansion slots for system expansion or 'add-on' cards. Three are ISA slots, the others are PCI slots. When you get an expansion card, it must use one of these to connect to the computer.

The ISA expansion slots are a legacy of the original IBM PC/AT design. They are 16-bit slots that run at a moderate bus speed. There are many kinds of expansion cards that use this slot design to connect to the computer, some of the most common being sound and modem cards.

PCI slots are the current high-speed 32-bit standard for system expansion cards. They operate at a faster speed and have a greater data throughput than ISA cards.

Expansion cards often make use of system resources, which requires managing the system resource configuration. Most newer expansion cards support the 'Plug and Play' standard that allows an Operating System like Windows95 to automatically detect them and configure system resources as needed. Some older ISA designs may not support this standard and may therefore require manual configuration. You should consult the specifications or documentation for a card to determine if this is the case and what needs do be done to properly configure the card.

The AGP Slot

The AGP (Accelerated Graphics Port) slot is for an AGP 3D video display card. Unlike PCI-based display cards, the AGP technology provides sufficient data throughput and speed to facilitate fully enabled 3-Dimensional and multimedia graphics display. AGP display cards using this dedicated slot are available from a variety of vendors.

The AGP slot also requires Operating System support. Windows 98 directly supports AGP and other support methods may be forthcoming. Please see Section 2 for more information.

Memory Sockets & Modules

There are three memory module sockets on the mainboard which use 168-pin DIMM memory modules. The sockets function independently of each other enabling a very flexible memory design that allows the use of a variety of memory options up to a total of 512MB SDRAM or 1GB EDO DRAM. For more information see Adding System Memory in Section 3.

CPU Slot & Supported CPUs

The Slot 1 CPU slot supports the full range of Pentium II CPUs from Intel. The mainboard comes with a "retention module" which mounts on the mainboard to provide guide rails and latch receptacles for the latches on the Pentium II. Installing a CPU in the socket is easy. The CPU slides into the guide rails, inserts in the slot and secures to the retention module with the attached spring-loaded latches.

If you want to install a CPU upgrade or are installing a CPU on the board for the first time, please refer to 'Installing a CPU' in Section 3: Reconfiguring Your Mainboard.

Port & Controller Connections

There are several ports and connectors on the mainboard. Some are external ports and others are internal connectors that connect to other parts of the computer or internal options.

External Ports

This mainboard has several external ports and connectors including the COM1 and COM2 serial ports, a Parallel port, two USB ports and PS/2-type keyboard and mouse ports. These external ports are all accessible at the rear of the computer when the mainboard is installed.

Internal Connectors

There are also several connectors built onto the mainboard, including two connectors for up to four Enhanced IDE devices in two channels and a connector for two floppy disk drives. There are also connectors for a cooling fans and both modem ring-in wake-up and LAN signal wake-up cables.

Details about these connectors are in Section 4: Reference Information.

In This Section:

System Controls
Hardware Features
The Retention Module
Firmware & Software

2: Using Your Mainboard

This section covers the system control features and status indicators that connect to the mainboard, some of the hardware features and provides an overview of the software that comes with or is built-into the mainboard.

System Controls

There are two topics in this section, a explanation of the hardware controls and status indicators that connect from the mainboard to your system case and some information about the parts of the CMOS Setup Utility that allow you customize some system features.

Hardware Controls & Indicators

There are some control features and status indicators that connect from the mainboard to your system case, which is sometimes called the 'Enclosure' or 'Chassis.' These are:

- Power Switch
- Power Status Indicator
- Suspend Switch
- Suspend Status Indicator
- Reset Switch
- Hard Disk Drive Activity Indicator
- Keyboard Lock

All of these case features connect to the mainboard via connector J9. Not all system cases have all of these features, so your system may not have all of them. The functions and options for these are shown in the table on the next page.

Hardware Control & Indicator Connectors

Feature	Function
Power Status LED	When lighted indicates that system is turned on
Suspend Switch	Puts the system into Suspend state under Operating Systems that support this power management feature
Suspend LED	When flashing indicates the system is suspended
Reset Switch	Pressing the Reset switch restarts the system
Keyboard Lock	Disables keyboard via a lock mounted on front panel of the case
Speaker	Connects to the PC speaker mounted on the system case
HDD Activity LED	Flashes when hard disk drive is active
Power Switch	Turns the system power on and off. Default sets this to dual function as power and suspend switch. Press once for Suspend, hold for >4 seconds for Off. To set as Power only, change setting in the Power Management section of the CMOS Setup utility.

Keyboard Power-On

This mainboard supports turning on the system by using a key command. You can turn on the system by pressing Ctrl+F12 (press both keys at the same time.)

Jumper JP1 controls this feature on the mainboard. The default setting is Enabled. Some keyboards and power supplies may not correctly support this feature. Please see page 4.4 for details.

CMOS Setup Utility Controls

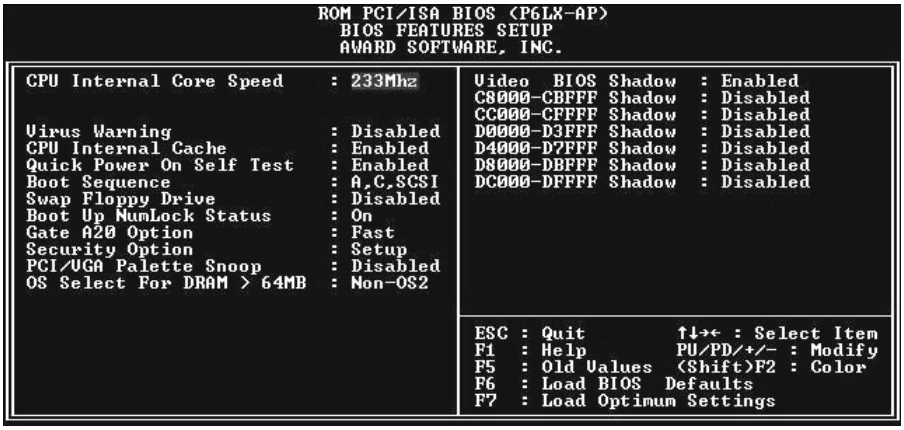
Two sections of the CMOS Setup Utility allow you to configure how some of your system's features work. These are:

- BIOS Features Setup
- Power Management Setup

The CMOS Setup Utility is a program that is permanently stored in the BIOS chip on the mainboard. The utility creates a system hardware configuration record that it stores in a small amount of battery-supported memory on the board. The BIOS uses this record to function as an interface between the system hardware and the operating system. Most of the settings in the CMOS Setup Utility are made automatically, so you won't normally need to use this program. You can, however, customize some of the operational features to suit how you prefer to use the system.

The screen illustrations on the next two pages show the Setup Default settings for these two sections of the utility.

The CMOS Setup Utility Summary in Section 4: Reference Information, lists the setting options for each section of the utility including the two noted above.


ROM PCI/ISA BIOS (P6LX-AP)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.
CPU Internal Core Speed : 233Mhz
Virus Warning : Disabled
CPU Internal Cache : Enabled
Quick Power On Self Test : Enabled
Boot Sequence : A,C,SCSI
Swap Floppy Drive : Disabled
Boot Up NumLock Status : On
Gate A20 Option : Fast
Security Option : Setup
PCI/VGA Palette Snoop : Disabled
OS Select For DRAM > 64MB : Non-OS2
Video BIOS Shadow : Enabled
C8000-CBFFF Shadow : Disabled
CC000-CFFFF Shadow : Disabled
D0000-D3FFF Shadow : Disabled
D4000-D7FFF Shadow : Disabled
D8000-DBFFF Shadow : Disabled
DC000-DFFFF Shadow : Disabled
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

CMOS Setup Utility –

BIOS Features Setup

This section of the setup utility allows you to configure some system features including Virus Warning, Boot Sequence and Security Option.

Virus Warning –

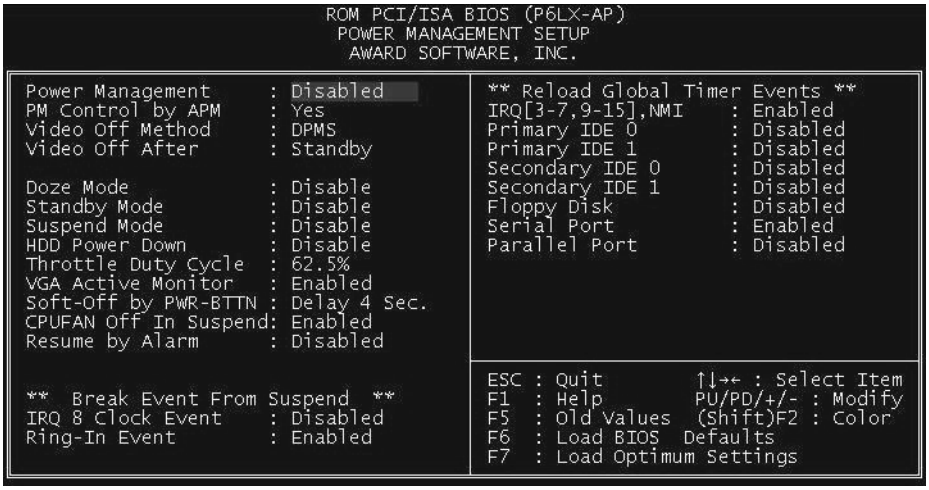
When enabled, monitors the primary hard disk boot sector and warns of any attempt to write to it.

Boot Sequence –

Controls the order in which the system checks disk drives for a boot disk.

Security Option –

Sets the level of password protection for the system for both the Supervisor and User passwords.


ROM PCI/ISA BIOS (P6LX-AP)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.
Power Management : Disabled
PM Control by APM : Yes
Video Off Method : DPMS
Video Off After : Standby
Doze Mode : Disable
Standby Mode : Disable
Suspend Mode : Disable
HDD Power Down : Disable
Throttle Duty Cycle : 62.5%
VGA Active Monitor : Enabled
Soft-Off by PWR-BTTN : Delay 4 Sec.
CPUFAN Off In Suspend: Enabled
Resume by Alarm : Disabled
** Break Event From Suspend **
IRQ 8 Clock Event : Disabled
Ring-In Event : Enabled
** Reload Global Timer Events **
IRQ[3-7,9-15],NMI : Enabled
Primary IDE 0 : Disabled
Primary IDE 1 : Disabled
Secondary IDE 0 : Disabled
Secondary IDE 1 : Disabled
Floppy Disk : Disabled
Serial Port : Enabled
Parallel Port : Disabled
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

CMOS Setup Utility –

Power Management Setup

This section of the setup utility allows you to configure the power management features supported by the BIOS. These can also operate in tandem with Operating System power management features.

You can use the Min Saving or Max Saving default modes or you can configure the power management features individually in the User Define mode.

Hardware Features

This section is a brief overview of information about the mainboard's hardware features.

Onboard Ports

There are several external ports on the mainboard. These are ports standard to most personal computers:

- COM1 Serial Port

  A high-speed serial port which can also be configured as the COM3 port in the CMOS Setup Utility.
- COM2 Serial Port (on supplied Port Bracket)

  A high-speed serial port which can also be configured as the COM4 port in the CMOS Setup Utility.
- Parallel Port

  The parallel port can be configured as a Standard, ECP or EPP parallel port in the CMOS Setup Utility
- PS/2 Keyboard Port (lower) & PS/2 Mouse Port (upper)
- USB ports – two ports (stacked)

Connectors

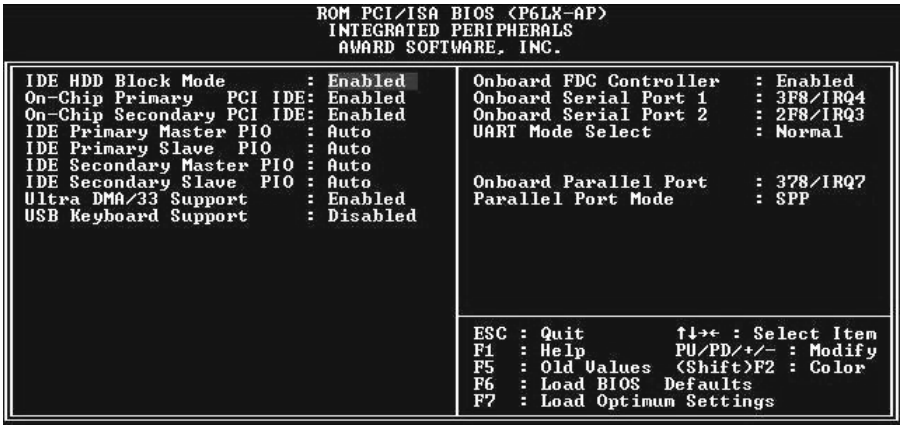
There are several connectors on the mainboard for connecting additional ports and internal peripheral devices

- IDE 1 – Primary IDE Channel

  Connector for the Primary Master and Slave IDE devices.
- IDE 2 – Secondary IDE Channel

  Connector for the Secondary Master and Slave IDE devices.
- Floppy Connector

  Connector for two floppy disk drives.


ROM PCI/ISA BIOS (P6LX-AP)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.
IDE HDD Block Mode : Enabled
On-Chip Primary PCI IDE: Enabled
On-Chip Secondary PCI IDE: Enabled
IDE Primary Master PIO : Auto
IDE Primary Slave PIO : Auto
IDE Secondary Master PIO : Auto
IDE Secondary Slave PIO : Auto
Ultra DMA/33 Support : Enabled
USB Keyboard Support : Disabled
Onboard FDC Controller : Enabled
Onboard Serial Port 1 : 3F8/IRQ4
Onboard Serial Port 2 : 2F8/IRQ3
UART Mode Select : Normal
Onboard Parallel Port : 378/IRQ7
Parallel Port Mode : SPP
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

CMOS Setup Utility – Integrated Peripherals

This section of the setup utility configures the IDE and Floppy controllers and the settings for the external ports

This section enables and configures the optional USB and Infrared features.
The SCSI features operate independent of the CMOS Setup utility so there are no settings for the onboard SCSI features here

The screen illustration shows the settings when Optimum Settings are loaded.

Case Security

The mainboard has a case security feature that will warn if the system case or 'chassis' has been opened since the last time the system was used. There is a photoelectric cell mounted on the mainboard that is active when the system is turned off and will detect the case being opened. The next time you turn the system on a warning message will appear on screen during the POST (Power On Self Test) before the Operating System loads.

Cooling Fan Connectors

There are three cooling fan power connectors on the mainboard. One is for the CPU cooling fan (J3), one for a power supply fan (J1) and one for a case-mounted cooling fan (J19). When the system enters Suspend mode, the CPU cooling fan and power supply fan will shut off. The case fan is not turned off in order to maintain air circulation inside the case.

Modem Wake-Up

The J18 connector on the mainboard is for connecting a signal cable from a modem that supports a modem ring system wake-up feature. With such a modem installed and connected to the mainboard via this connector, the system will wake up from Suspend mode when an incoming call is received by the modem.

The 'Ring-In Event' line in the CMOS Setup utility's Power Management Setup section must be set to Enabled for this feature to function.

LAN Wake-Up

The J17 connector on the mainboard is for connecting a signal cable from a LAN card that supports a LAN wake-up feature. When a LAN card that supports this is installed and connected to the mainboard via this connector, the system will wake up from Suspend mode when the system is accessed via the LAN.

ATX Power Supply

With an ATX power supply, the system will turn the power off automatically when exiting Windows95.

UltraDMA Hard Disk Drive Support

This mainboard supports hard disks that use UltraDMA data transfer. You attach an UltraDMA drive to one of the IDE cables. If you use the Optimum Settings feature in the CMOS Setup utility the system will automatically detect the drive and configure the system to use it.

CMOS Support Battery

The disk shaped battery on the mainboard is a 3-volt Lithium cell battery that supports the small amount of onboard memory where the CMOS Setup utility's configuration record is stored. The battery will last for a number of years and can conceivably outlast the usage period of the computer it is in.

If the battery fails, the system will not retain the CMOS Setup configuration and the system will need to be reconfigured every time you turn it on. If this happens, replace the battery with the same type as is installed. You can get a replacement at many electronics supply stores, computer stores and other places that sell a variety of batteries for various uses.

Optional Hardware Connectors

There are additional feature connectors on the mainboard for optional ports. These require optional external port hardware.

IR Ports

There is one standard and one optional connector on the mainboard which support an IR (infrared) port module that enables wireless communication between the computer and other computers and devices with an infrared port. The default IR connector, J15, is for IrDA or ASKIR infrared modules and the optional J6 connector is for Fast IR.

The infrared port module is an optional component. If it is installed, you must set the UART 2 line in the Integrated Peripherals section of the CMOS Setup utility to the appropriate IR mode used by the module.

Support software and documentation for the IR port is on the Support Disk that comes with the mainboard.

Firmware & Software

The mainboard hardware is supported by both firmware and software components. Firmware is software that is stored on a chip on the board rather than on disk media.

The firmware component you interface with on this mainboard is the CMOS Setup Utility. This utility establishes various settings used by the BIOS, the basic software that is an interface between the system hardware and software.

The software component is comprised of software drivers that support the PCI IDE controller and some of the other hardware features.

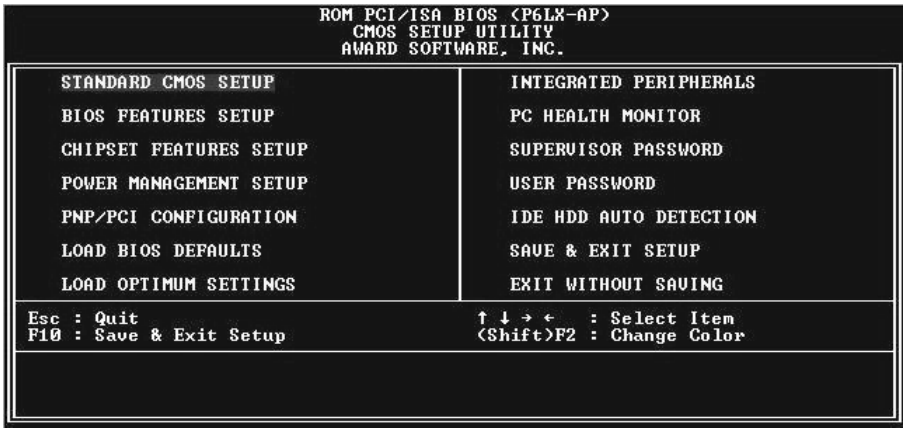
How To Use The CMOS Setup Utility

The CMOS Setup Utility options are listed in detail in Section 4: Reference Information. This section is just a brief explanation of how to run the program to adjust settings as noted in this and the next section.

To run the CMOS Setup Utility, press the Del or Delete key while the computer is starting up, before the operating starts to load. The utility's main screen will appear as shown on the next page. To navigate the program, use the controls shown on the screen. The utility has several sections. Many of the features configured by the utility are set to operate automatically when the 'Setup Defaults', the recommended mode, are used. With Setup Defaults loaded you can still customize various settings.

Clearing CMOS

Under some unusual circumstances the configuration record created by the CMOS Setup utility and stored on the mainboard can become corrupted and unusable, possibly leading to the board being unable to operate properly. If this happens, the CMOS record can be cleared by setting jumper JP2 to the clear setting for a moment and then setting it back to the Normal setting. Refer to Section 4 for more information.



CMOS Setup Utility –
This is the main screen for the setup utility from which you access its various sections. The function and use of each section is covered in Section 4: Reference Information.

Flashing The BIOS

This mainboard uses the Award BIOS. The BIOS is stored on a programmable flash memory chip on the mainboard. Updates to the BIOS can be installed by installing a new BIOS file on the flash chip, which replaces the existing one. You do this using software that comes on the Support Disk. There is an explanation of how to install a BIOS update in a 'readme' text file included with the program.

Bus Master Drivers

This mainboard comes with software drivers, for various Operating Systems, that enable the PCI controller to operate in 'Bus Master' mode. The drivers are on the Support Disk. The included 'readme' file has information on the drivers and installation information.

In This Section:

Installing Expansion Cards
Adding System Memory
Installing A CPU Upgrade
Adding An IDE Peripheral
Adding SCSI Devices
Installing An AGP Card

3: Reconfiguring Your Mainboard

This section explains how to install new hardware on your mainboard. It covers installing expansion cards, adding system memory, changing the CPU and installing additional IDE peripheral devices such as a hard disk or a CD-ROM drive.

Installing Expansion Cards

There are seven expansion card slots on the mainboard, three ISA slots and four PCI slots. When you get an expansion card, it will come with instructions on how to install it, so this section covers relevant information from the mainboard side only.

ISA Cards & Slots

ISA expansion cards often use system resources in the form of IRQs and DMA channels. Newer cards that comply with the Plug and Play (PnP) standard are designed to allow the Operating System to automatically configure system resources. Cards that do not support PnP may require manual configuration of both the card hardware and settings in the CMOS Setup Utility.

If you have a PnP-compliant card to install there should be little to do other than follow the installation instructions. If, however, you have a non-PnP card and it requires configuring system resources, you may need to review the third part of this section, Configuring Expansion Card Resources In CMOS Setup.

PCI Cards & Slots

With very few exceptions, any PCI expansion card you are likely to get will be Plug an Play compliant. If you are using an Operating System that supports PnP, such as Windows 95, you should be able to follow the installation instructions that come with the card and have the Operating System automatically recognize and configure the card.

The PCI slots on the mainboard all have 'Bus Master' capability. For installed PCI cards to use this feature an Operating System-specific Bus Master software driver that comes with this mainboard must be installed under your Operating System. These drivers are located on the Support Disk.

The AGP Slot

This mainboard has one other expansion slot, the AGP or Accelerated Graphics Port slot.

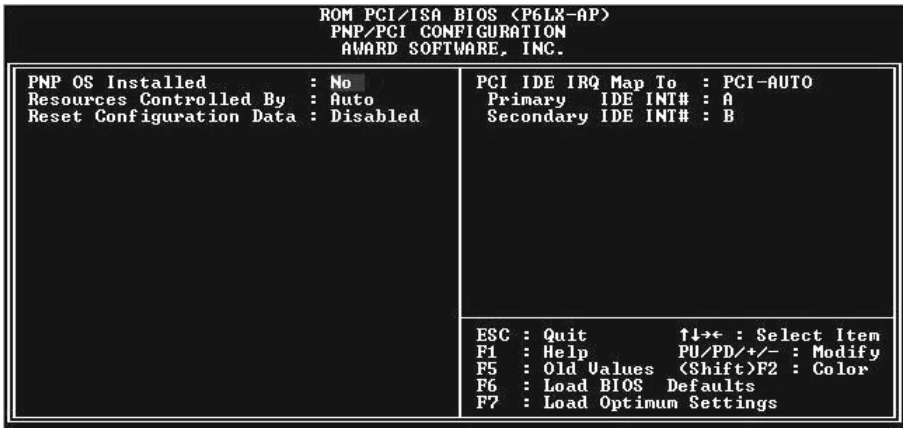
The AGP slot is a special high-speed slot for a display card that uses the AGP interface. Most display cards currently use the PCI bus to connect to the system. The AGP design maximizes the performance of the display card, especially for 3D operations, by providing a high-speed interface and access to system memory for 3D rendering. AGP offers a substantial performance enhancement when compared to an equivalent display card with a PCI interface.

You set the amount of system memory available to the AGP card in the CMOS Setup Utility's ChipSet Features Setup section under AGP Aperture Size.

Configuring Expansion Card Resources In CMOS Setup

The CMOS Setup Utility, which is covered in detail in Section 4: Reference Information, has a section called PNP/PCI Configuration. The default settings in this section allow the Operating System to automatically configure IRQ resources for PnP compliant ISA and PCI Cards.

If you need to install a non-PnP card, you will need to configure any IRQ and DMA settings manually, both on the card and in the CMOS Setup Utility. The following three pages show how to do this.


ROM PCI/ISA BIOS (P6LX-AP)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.
PNP OS Installed : No
Resources Controlled By : Auto
Reset Configuration Data : Disabled
PCI IDE IRQ Map To : PCI-AUTO
Primary IDE INT# : A
Secondary IDE INT# : B
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

CMOS Setup Utility –
PnP/PCI Configuration

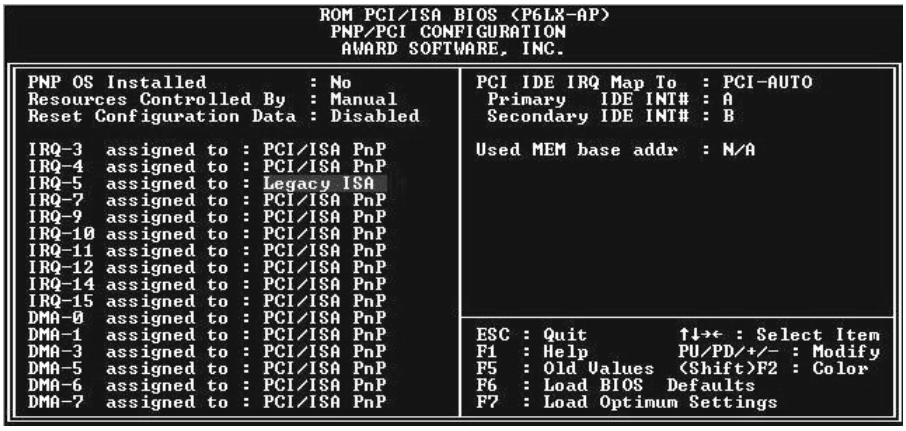
This is the default screen for this section when Setup Defaults are loaded. If you need to manually configure the IRQ settings, set the first item on the screen to the 'Manual' setting. See the next page.

If you install an Operating System that supports Plug and Play, such as Windows95, you should set the first line, 'PNP OS Installed' to 'Yes'.

Running CMOS Setup

To run the CMOS Setup utility, press the Delete or the Del key while your computer is first starting up. Select the 'PNP/PCI CONFIGURATION' item on the main screen and press the Enter key to open it.

When you are finished, press the Esc key once to return to the main screen and then select 'SAVE & EXIT SETUP' and press the Enter key to save the new configuration. For more information on this see Section 4: Reference Information.


ROM PCI/ISA BIOS (P6LX-AP)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.
PNP OS Installed : No
Resources Controlled By : Manual
Reset Configuration Data : Disabled
IRQ-3 assigned to : PCI/ISA PnP
IRQ-4 assigned to : PCI/ISA PnP
IRQ-5 assigned to : Legacy ISA
IRQ-7 assigned to : PCI/ISA PnP
IRQ-9 assigned to : PCI/ISA PnP
IRQ-10 assigned to : PCI/ISA PnP
IRQ-11 assigned to : PCI/ISA PnP
IRQ-12 assigned to : PCI/ISA PnP
IRQ-14 assigned to : PCI/ISA PnP
IRQ-15 assigned to : PCI/ISA PnP
DMA-0 assigned to : PCI/ISA PnP
DMA-1 assigned to : PCI/ISA PnP
DMA-3 assigned to : PCI/ISA PnP
DMA-5 assigned to : PCI/ISA PnP
DMA-6 assigned to : PCI/ISA PnP
DMA-7 assigned to : PCI/ISA PnP
PCI IDE IRQ Map To : PCI-AUTO
Primary IDE INT# : A
Secondary IDE INT# : B
Used MEM base addr : N/A
ESC : Quit
F1 : Help
F5 : Old Values
F6 : Load BIOS Defaults
F7 : Load Optimum Settings
↑↓→← : Select Item
PU/PD/+/- : Modify
(Shift)F2 : Color

CMOS Setup Utility – PnP/PCI Configuration

When 'Resources Controlled By' is set to 'Manual' you can individually configure the IRQ & DMA channel settings. The individual defaults are for PnP cards and will still use all the items listed to automatically assign resources as needed. If you are installing a 'legacy' ISA card that requires manual configuration, you can manually assign the required resources as needed.

Legacy cards, by definition, are not PnP compliant and must be manually configured if they require an IRQ or DMA channel. See the expansion card manual for specifics.

When an item in the list is configured this way, it is no longer part of the pool of automatically configurable resources. For this reason, don't configure ISA cards this way unless necessary.

Adding System Memory

There are some requirements you must follow if you want to install system memory. The memory subsystem has four 168-pin DIMM sockets which function independently. This mainboard supports both EDO DRAM and SDRAM (Synchronous DRAM) modules. You can use module sizes from 8MB to 128MB, either single or double-sided. The total supported memory capacity for this mainboard is 512MB SDRAM or 1GB EDO.

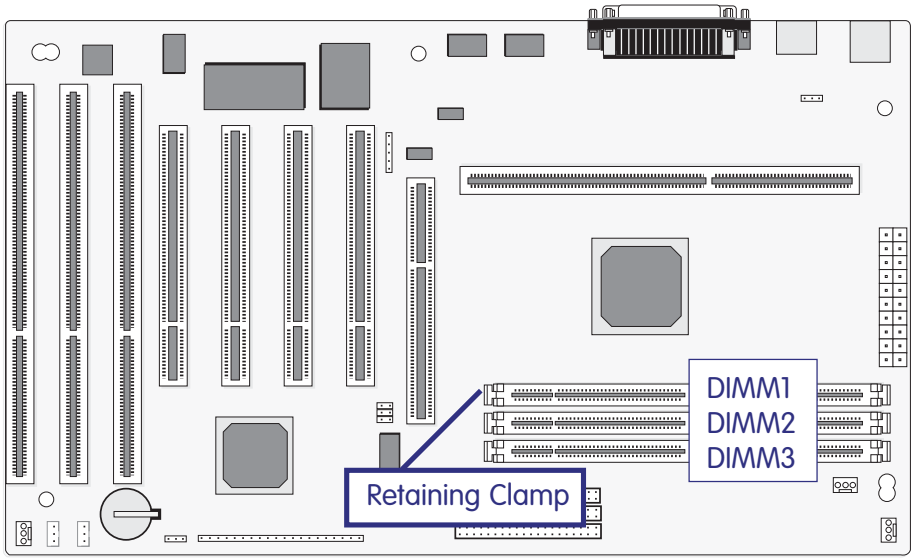
If your mainboard is already installed in a system, it will have some amount of memory installed on the board. You can tell how much by checking the configuration screen that appears when the computer is starting up. With some memory installed, there may be some sockets available to add additional memory.

Memory Configurations

You can install any combination of module sizes as long as you follow these requirements:

- All modules must use unbuffered 3.3–Volt RAM
- All modules should have the same operating speed, e.g. 60ns (nanoseconds) EDO or 100MHz SDRAM
- Maximum memory installation of 512MB SDRAM or 1GB EDO DRAM

Other than these requirements, there is no limitation on the variety of combinations, so they are not listed here. We recommend using one type of DRAM, either EDO or Synchronous. SDRAM is considerably faster than EDO.



DIMM Sockets

The picture above shows the memory module sockets in detail. The sockets are numbered DIMM1 to DIMM3 starting from the upper socket in the picture.

Modules press into place and are held in position by a retaining clamp at each end of the socket.

When you want to remove a module, press down on the retaining clamps to push the module out of the socket.

Installing Memory Modules

To install a DIMM module, look at the module and note the position of the shorter section of the connector edge that plugs into the DIMM socket. Note the position of the shorter section of the socket. Orient the module so that these match and press the module into the socket at a 90° angle. The retaining clamps at each end of the socket will rotate upwards automatically to secure the module in place.

Modules are designed so that they will only insert in one orientation. If you have trouble inserting the connector edge of the module into the socket, it may be oriented the wrong way. Turn the module around and try again. You shouldn't need to force it.

If All Sockets Are Occupied

If you want to install more memory and there are no sockets available, you must remove some installed modules and replace them with the upgrade modules.

If you have to do this, make sure to identify what type of memory is already installed. In some cases, there may be a mix of module types. You can tell this by checking the configuration screen that appears while the computer is starting up. Press the Pause key to temporarily interrupt the start-up process while the screen is visible so that you have more time to read it. When you're done press any key to resume.

Remove the lowest performance and smallest size modules and replace them with the upgrade.

SDRAM is considerably faster than EDO DRAM. If you are installing more memory with some EDO already installed, consider installing SDRAM. If the memory already installed is SDRAM, installing EDO modules will hamper system performance.

Installing A CPU Upgrade

If you are installing this mainboard it will not have a CPU installed unless your vendor installed one when you purchased the board. If the mainboard is installed in a system, there will already be a CPU installed. In either case the information and procedure for installing a CPU is the same. Since the more likely scenario is that you are installing an upgrade, this section assumes that is what you are doing. If you need to install the CPU Retention Module, please see the section below.

The Basic Procedure

To install a Pentium II upgrade you need to do the following:

1. Install the CPU chip

   Follow the installation instructions that come with the Intel CPU. The CPU will only insert in the Slot 1 CPU socket one way. Slide the CPU into the guide rails of the Retention Module and press the CPU into the slot until the retaining latches snap into place in the Retention Module guide rails.

2. Connect the CPU cooling fan power lead

   Connect the CPU cooling fan power lead to the J3 fan power connector on the mainboard.

3. Check the CPU clock setting in CMOS Setup

   Run the CMOS Setup Utility (see Section 4) and open the BIOS Features Setup section. The default setting is to auto-detect the speed of the Pentium II. Check to see that the CPU Internal Core Speed setting matches the rated speed of the Pentium II installed.

   If for some reason you want to change this speed setting manually, set this line to Manual and set the CPU Bus Frequency and Bus Frequency Multiple lines that appear to the settings you require. Doing this is not recommended.

The internal clock speed is the speed the CPU operates at to process data and is the one used by Intel to indicate the speed of the chip, for example, a 266MHz PentiumII. The CPU also has an external bus clock speed, or frequency, which is the speed at which it interacts with external components. The default external bus clock for this mainboard is 66MHz

The CPU Retention Module

The Pentium II CPU requires a mounting frame that attaches to the mainboard to guide the CPU during installation and secure it to the mainboard. This frame is called the "retention module" and is supplied with the mainboard. If you received this mainboard installed in a system, the retention module will already be installed. If you purchased the mainboard to install yourself, you will need to install the retention module on the mainboard before you install the board in a system case.

The module comes with two mounting brackets which insert through holes in the mainboard from the underside. The module is simple to install and will require either a flat-head or Philips-head screw driver. To install the module do as follows:

1. Take precautions against static electric discharge before you start. It is best to have an anti-static surface to place the mainboard on while you work on it and also an anti-static wrist strap. If you don't have an anti-static surface to work on, place the board on the anti-static bag it comes in. If you don't have a wrist-strap (inexpensive and available at electronics stores), try to touch something metal, perhaps the system case, before you touch the mainboard.
2. The two mounting brackets insert through the mounting holes in the mainboard. The holes are at the four corners of the Slot 1 CPU slot. Press the two mounting bolts on each bracket through the holes in the mainboard so that they protrude through the board. You may need to push a little to seat them.
3. The module slides over the Slot 1 CPU slot. You have to orient it correctly for it to sit flat on the mainboard. Look at the left end of the slot (as in the mainboard illustration in Section 1). There is an orientation foot on the slot that slides into the orientation notch on the retention module. Look at the module and find the notch. Orient the module to the CPU slot.

4. Slide the retention module over the CPU slot. If you have it oriented correctly it will slide on easily and sit flat on the board. The retaining nuts mounted in the module should fit over the mounting bolts that protrude through the mainboard.
5. Secure the retention module to the mainboard by screwing the retaining nuts down with a screwdriver. The module should be secure, but don't overtighten the nuts.

There are receptacles at the top of the guide rails that the mounting latches on the Pentium II fit into. When you install the CPU the latches should snap into the receptacles. Follow the Intel instructions that come with the Pentium II to install the CPU properly.

Adding An IDE Peripheral

This section covers some aspects of installing internal IDE peripheral devices as they relate to the mainboard. The onboard Enhanced IDE controller supports up to four devices, two per IDE channel. The primary hard disk drive in most systems is an IDE device. You may want to install more hard disks, a CD-ROM drive or combination of these and other devices. This mainboard supports both PIO and UltraDMA modes, which it can detect automatically. You can install a mix of devices. With the Setup Defaults loaded in the CMOS Setup utility, the system will automatically detect and configure multiple devices of whatever mode.

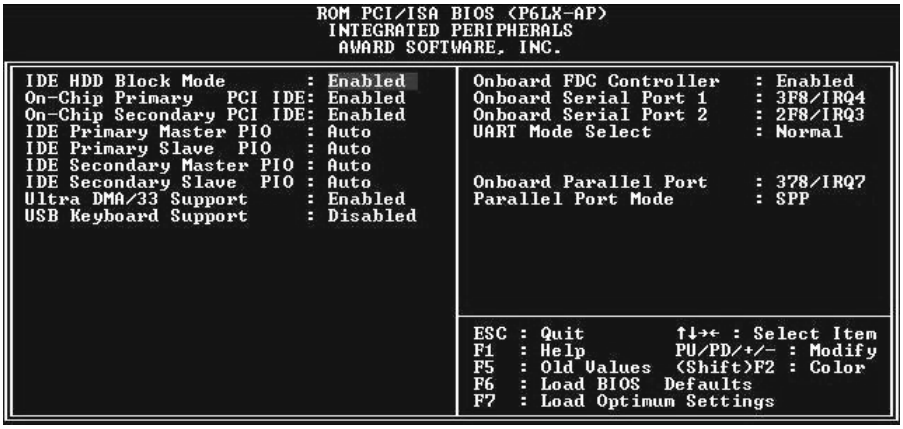
IDE Transfer Modes

Hard disk read and write operations are executed via the mainboard chipset. The transfer of data between the hard disk and the system takes place using one of a number of transfer modes – either one of several PIO modes or UltraDMA mode.

Although there are several PIO Modes (0 through 4), and this mainboard supports all of them, most current hard disk and CD-ROM drives use either Mode 3 or 4. The greater the mode number, the faster the transfer rate, so you should use the fastest mode the device can operate at. With Optimum Settings loaded in the CMOS Setup Utility, the system will automatically detect the fastest mode a device can use and set it for that mode.

UltraDMA is another transfer method that provides even faster data transfer than PIO modes. To use it you must install a drive that uses this transfer method. Drives that use PIO Mode transfer can not use the UltraDMA setting.

The settings for drive modes are in the Integrated Peripherals section of the CMOS Setup utility. The screen illustration at right shows the Setup Defaults settings.


ROM PCI/ISA BIOS (P6LX-AP)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.
IDE HDD Block Mode : Enabled
On-Chip Primary PCI IDE: Enabled
On-Chip Secondary PCI IDE: Enabled
IDE Primary Master PIO : Auto
IDE Primary Slave PIO : Auto
IDE Secondary Master PIO : Auto
IDE Secondary Slave PIO : Auto
Ultra DMA/33 Support : Enabled
USB Keyboard Support : Disabled
Onboard FDC Controller : Enabled
Onboard Serial Port 1 : 3F8/IRQ4
Onboard Serial Port 2 : 2F8/IRQ3
UART Mode Select : Normal
Onboard Parallel Port : 378/IRQ7
Parallel Port Mode : SPP
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

CMOS Setup Utility – Integrated Peripherals

The illustration above shows the Setup Defaults settings for this screen. You can install IDE devices under these settings and the system will automatically detect and set the best mode for each device.

You can also set the transfer mode for each device manually, although we recommend using the default settings unless you have a reason not to and you know what you are doing.

Installing IDE Devices

The mainboard's Enhanced IDE controller supports four devices in two channels, IDE1 and IDE2. These are called the Primary and Secondary IDE channels.

Each channel supports two devices, the first device is called the Master device and the second the Slave device. You must configure any IDE device you install to operate as one or the other. To find out how to configure the device you plan to install you should refer to the manual that comes with the device. You may need to set jumpers or switches to configure it.

IDE Cables

The mainboard comes with one IDE ribbon cable to connect two devices to the mainboard. If you need to install devices on the second channel you will need to get another IDE cable. These are a standard and inexpensive item that you can generally find at any computer supply store. One edge of the cable is colored to indicate the Pin 1 side. When you connect the cable to the mainboard and a device you must orient the cable so that this colored edge is at the Pin 1 side of the connector you are attaching it to.

The mainboard IDE connectors have an orientation cut-out to ensure correct orientation, and the supplied cable has an orientation tab on the side of the connector. Some IDE cables do not have this tab and therefore are not forced to use the correct orientation. You should check that any cable you buy has orientation tabs on the side of the connectors. If you get a cable that does not have them, make sure the cable is correctly oriented when you attach it to the board and the device.

IDE cables have three connectors on them, one at each end and one in-between, closer to one of the ends. When you install a device on the second channel, attach the lone end to the IDE2 connector on the mainboard. The two connectors that are closer to each other are for connecting to IDE devices. The connector on the end is for the Master device and the connector in the middle is for the Slave device.

IDE Devices & CMOS Setup

When you install a new hard disk drive its parameters will be automatically detected by the BIOS and entered in the Standard CMOS Setup section of the CMOS Setup utility if you use the Optimum Settings, which automatically detect any new hard disk drive. All other devices do not use drive parameters and will not show up in the device list on this page.

Installing an AGP Card

An AGP display card installs in the AGP slot on the mainboard and secures to the system case at the matching expansion slot opening. Any AGP card will require Operating System support, which will be implemented in Windows 98 and later versions of Microsoft Windows.

Review the card documentation for any additional installation instructions.

In This Section:

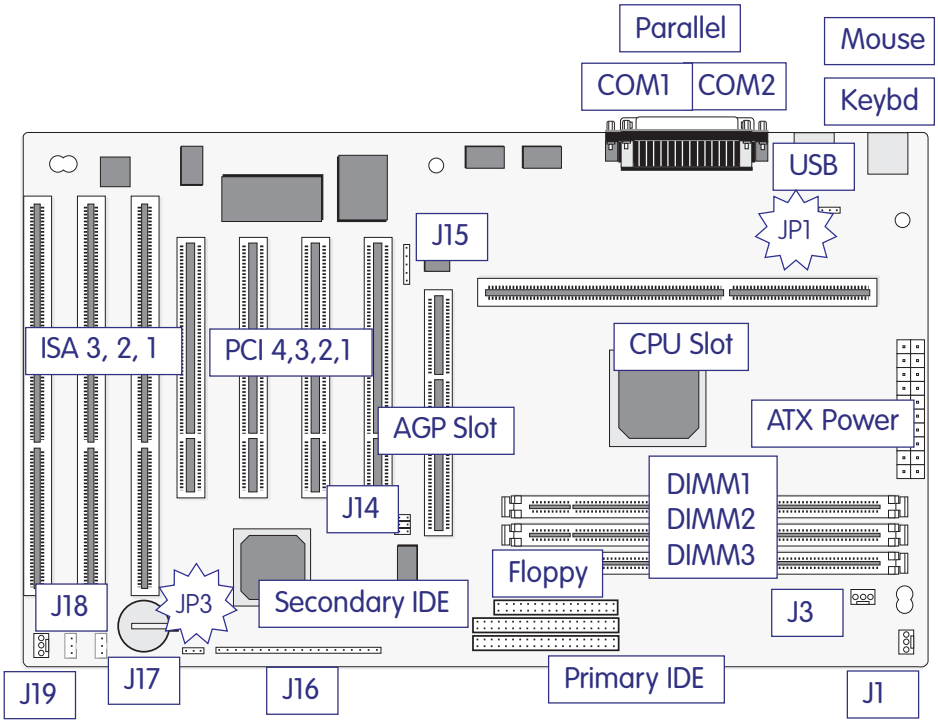
Jumper Summary
Connector Summary
CPU Information
Memory Configurations
CMOS Setup Utility

4: P6LX-A+ Reference Information

This section is a summary of the P6LX-A+'s specifications and settings.

Using This Section

The information in this section is presented in a summary format to make it easy to find specific information. If you need related explanations, please refer to the topics earlier in the manual.



Jumper & Connectors

The illustration above shows the location of the jumpers, ports and other connectors on the mainboard.

The COM1 and COM2 ports are underneath the Parallel port. The USB ports and the PS/2 ports – Keyboard (lower) and Mouse (upper) – are stacked vertically.

Jumper Configuration & Connector Summary

This section lists the jumper setting options for this mainboard and the onboard connectors. The settings are listed as follows:

- The two pins shorted by a jumper cap on a three-or-more-pin jumper, e.g. 1-2

  or

- For a two-pin jumper, On, if the cap is in place, and Off, if a cap is not in place.

In the jumper illustrations, the Pin 1 position is shaded and the jumpers, shown in a "bird's eye" view, look like this:

A jumper with a cap in position looks like this:

The default settings are noted in the summary table.

In practice, for an Off setting on a two-pin jumper, place the cap over one pin so that it doesn't get lost.

Jumper Settings

Function	Jumper	Settings		
Keyboard Power-On	JP1	Enable Disable	1-2 2-3	[D]

Note: The Keyboard Power-On feature may not work properly if the system keyboard or power supply are not within the required specifications for this feature. This is a problem caused by such components, not the mainboard. If Keyboard Power-On doesn't work, set this jumper to the Disable setting. The Keyboard Power-On command is Ctrl + F12

Clear CMOS	JP3	Clear Normal	1-2* 2-3	[D]

* With system turned off, put cap in the clear position for a moment to clear current settings and then return it to the Normal position

Note:
[D] = Default setting
1. Clock Settings:
CPU External Clock speed and Internal Clock factor are set in the CMOS Setup Utility BIOS Features Setup section, not by jumpers.
2. CPU Status Detection:
The system automatically detects the CPU status at start-up and will display a message on-screen if the CPU has been removed or changed since the last shut-down.

JP1: Keyboard & Mouse Voltage Selector

Enable

Disable

JP3: Clear CMOS

Clear

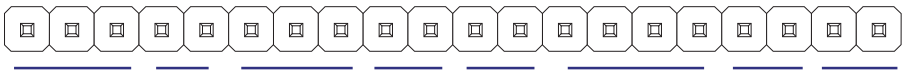
Normal

Onboard Connectors

Name: Function	Description
J1: PS Fan power	For ATX power supply cooling fan power cable
J2: Keyboard/Mouse	Stacked PS/2 ports, keyboard lower, mouse upper
J3: CPU Fan power	For CPU cooling fan power cable
J4: USB	Dual stacked external USB ports
J5: Serial Port Two	9-pin serial port is COM2, can be set to COM4
J6: FIR header	Optional Fast IR connector for FIR module
J7: Parallel Port	Standard 25-pin parallel Printer port
J8: Serial Port One	9-pin serial port is COM1, can be set to COM3
J9: Floppy Drive	34-pin connector connects to 2-device cable; End device is Drive A:, middle is Drive B:
J10: Secondary IDE	40-pin connector connects to 2-device cable; End device is Secondary Master, middle is Slave
J11: Primary IDE	40-pin connector connects to supplied IDE cable; End device is Primary Master, middle is Slave
J12: SLOT 1	Pentium II CPU slot
J13: AGP Slot	Accelerated Graphics Port slot
J14: EMU8008	2x3 PCI sideband header for Creative EMU8008
J15: Intel IR header	Connects to optional IrDA or ASKIR infrared module
J16: Case Features	Connects to case features: Pins 1-3: Power On LED; 4-5: Suspend Switch; 6-8: Suspend LED; 9-10: Reset Switch; 11-12: Keyboard Lock; 13-16: Speaker; 17-18 HD LED; 19-20 Power On switch

Name: Function	Description
J17: LAN Wake-up	LAN activity wake-up header
J18: Modem Wake-up	Connects to internal modem for system wake-up on modem ring
J19: Case Fan power	For case-mounted cooling fan power cable

J16: Case Features Connector



1 – 3 4 – 5 6 – 8 9 – 10 11 – 12 13 – 16 17 – 18 19 – 20

Pin 1-3: Power On LED; Pin 4-5: Suspend Switch; Pin 6-8: Suspend LED; Pin 9-10: Reset Switch; Pin 11-12: Keyboard Lock; Pin 13-16: Speaker; Pin 17-18: Hard Disk LED; Pin 19-20: Power Switch

J16 Pin Assignments

Power LED
1 +
2 +
3 -
Suspend
4 I
5 G
Suspend LED
6 +
7 +
8 -
Reset
9 I
10 G

Keyboard Lock
11 I
12 G
Speaker
13 P
14 G
15 G
16 O
HDD LED
17 +
18 -
Power On
19 I
20 G

The AGP Slot

The AGP (Accelerated Graphics Port) slot is for an AGP display card. With the Optimum Settings loaded in the BIOS Setup Utility the AGP has a default memory aperture of 64MB which can be set from 4MB to 256MB.

Supported CPUs

This mainboard supports the Intel Pentium II CPU running at the following speeds with a 66MHz external bus clock:

- 233MHz
- 266MHz
- 300MHz
- 333MHz

The CPU Retention Module

This mainboard ships with a CPU retention module which attaches to the mainboard to provide guide rails and latch receptacles to hold the installed CPU in place. Please see Section 2, The CPU Retention Module, if you need more information on how to install and use the module.

System Memory Specifications

The memory subsystem on this mainboard has four 168-pin DIMM sockets. The sockets function independently and can use either EDO DRAM or SDRAM unbuffered 3.3–Volt modules. Single or double-sided modules from 8MB to 128MB are supported up to a total memory capacity of 512MB SDRAM or 1GB EDO DRAM.

Memory Configurations

You can install any combination of module sizes as long as you follow these requirements:

- All modules must use unbuffered 3.3–Volt RAM
- All modules should have the same operating speed, e.g. 60ns (nanoseconds) EDO or 100MHz SDRAM

Other than these requirements, there is no limitation on the variety of combinations, so they are not listed here. We recommend using one type of DRAM. SDRAM is faster than EDO.

CMOS Setup Utility Summary

This section explains the entries in the CMOS Setup Utility program. This utility is permanently stored on the BIOS chip on the mainboard. It creates a record of the mainboard's and some system configuration information and stores it in battery-supported memory on the mainboard. This record must be intact and accurate in order for the mainboard to operate.

After a brief explanation of how to operate the utility there is a summary of the entries and options for all sections of the utility. Under normal conditions, once your system is set up, you should have little or no need to use this utility.

Using the CMOS Setup Utility

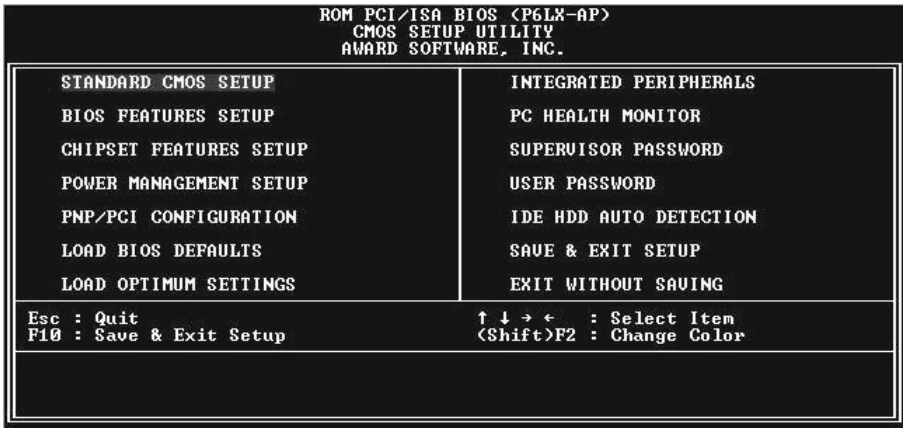
This mainboard uses the Award system BIOS. It is stored in a Flash ROM memory chip on the mainboard. The BIOS uses a software program, also stored on the same chip to create a system configuration record which is saved in a small amount of special "CMOS" memory on the mainboard.

Accessing The CMOS Setup Utility

When you turn on your computer, a message appears on the screen indicating you can run the Setup program by pressing the Del key (it's on the keypad.) The message appears after the POST (Power On Self Test).

If you want to run Setup but you don't respond in time before the message disappears, you can reset the system by pressing the Ctrl + Alt + Delete keys at the same time, or by pushing the system Reset button. The message will then reappear.

After you press the Del or Delete key the program menu screen will appear, displaying the Setup utility section names and some command instructions.


ROM PCI/ISA BIOS (P6LX-AP)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.
STANDARD CMOS SETUP
BIOS FEATURES SETUP
CHIPSET FEATURES SETUP
POWER MANAGEMENT SETUP
PNP/PCI CONFIGURATION
LOAD BIOS DEFAULTS
LOAD OPTIMUM SETTINGS
INTEGRATED PERIPHERALS
PC HEALTH MONITOR
SUPERVISOR PASSWORD
USER PASSWORD
IDE HDD AUTO DETECTION
SAVE & EXIT SETUP
EXIT WITHOUT SAVING
Esc : Quit
F10 : Save & Exit Setup
↑ ↓ → ← : Select Item
(Shift)F2 : Change Color

Menu Commands

If you look at the lower portion of the screen illustration you'll see a section that lists the control commands for this level of the program. You execute a command by pressing the key for that command. The program commands are :

Quit

This command will close the Setup program when you press the ESC key.

Save & Exit Setup

This will save the current settings and close the Setup program when you press the F10 key.

Select Item

You can use the arrow keys on your keyboard to move around the screen and select a menu item. An item is highlighted when it is selected.

Change Color

Change the program color scheme by pressing Shift + F2.

The section at the bottom of the screen displays a brief explanation of a highlighted menu item's function.

There are six main sections to the Setup program:

- Standard CMOS Setup

  Date, time, disk drive, video display and error handling
- BIOS Features Setup

  System customization features and video display settings
- Chipset Features Setup

  Chipset settings, memory configuration feature for specialized add-on cards and VGA memory configuration
- Power Management Setup

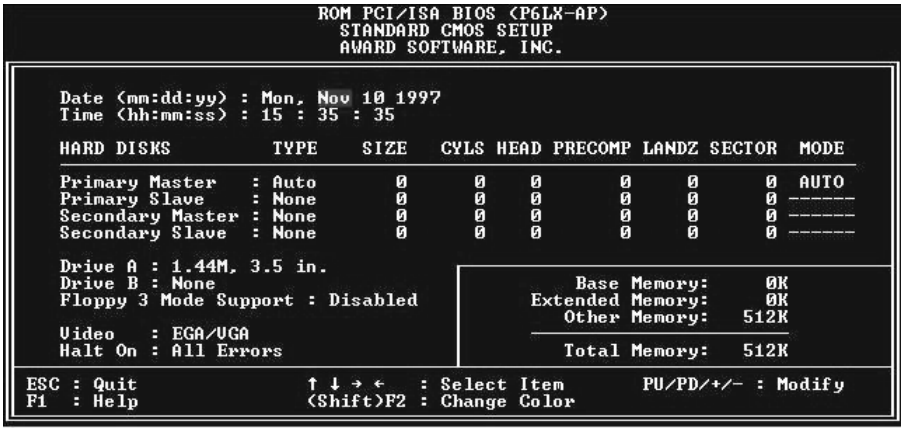
  Sets up the "green" power management features
- PNP/PCI Configuration

  PCI expansion slot and system resource settings

- Load BIOS Defaults
  Loads minimum settings from the BIOS ROM.
- Load Optimum Settings
  Loads optimized settings from the BIOS ROM.
- Integrated Peripherals
  Settings for the IDE channels and onboard ports
- PC Health Monitor
  Monitoring sensor settings and readings, accessed by LANDesk Client Manager

  The other main menu items are affected by these items :
- Supervisor Password & User Password
  Sets a system password which is configured by the Security Option item in BIOS Features Setup.
- IDE HDD Auto Detection
  Automatically detects the drive parameters of any installed IDE hard disk drives and enters them automatically in the Standard CMOS Setup .
- Save & Exit Setup
  Saves the current settings and exits the program.
- Exit Without Saving
  Discards any changes made during the current session and exits the program.

To enter a section of the Setup program, highlight the menu item and press the Enter key.


ROM PCI/ISA BIOS (P6LX-AP)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.
Date (mm:dd:yy) : Mon, Nov 10 1997
Time (hh:mm:ss) : 15 : 35 : 35
HARD DISKS TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Primary Master : Auto 0 0 0 0 0 0 AUTO
Primary Slave : None 0 0 0 0 0 0 ------
Secondary Master : None 0 0 0 0 0 0 ------
Secondary Slave : None 0 0 0 0 0 0 ------
Drive A : 1.44M, 3.5 in.
Drive B : None
Floppy 3 Mode Support : Disabled
Video : EGA/VGA
Halt On : All Errors
Base Memory: 0K
Extended Memory: 0K
Other Memory: 512K
Total Memory: 512K
ESC : Quit
F1 : Help
↑ ↓ → ← : Select Item
(Shift)F2 : Change Color
PU/PD/+/- : Modify

Standard CMOS Setup

To enter this section, highlight this menu item in the main menu and press the Enter key. The screen above will appear.

Menu Commands

If you look at the lower portion of the screen illustration you'll see a section that lists the control commands for this level of the program. You execute a command by pressing the key for that command. The program commands are :

Quit

This command will close the Setup program when you press the ESC key.

Help

This displays information about the highlighted item when you press the F10 key.

Select Item

You can use the arrow keys on your keyboard to move around the screen and select a menu item. An item is highlighted when it is selected.

Change Color

You can change the program color scheme by pressing Shift + F2.

Modify

To change the setting of a highlighted selection you can press either the Page Up (PU) and Page Down (PD) keys or the Plus (+) and Minus (–) keys. Pressing a key once will switch to the next setting option for the selected item.

If your mainboard is already installed in a working system the proper entries are already entered on this screen and you shouldn't change them except for adjusting the Date and Time entries if necessary.

Date & Time

The first two lines on the screen are the date and time settings for the system clock.

Hard Disk Type & Parameters

For an IDE hard disk drive, you should set the entries to "Auto" and the BIOS will automatically detect all drive information needed.

You can also use the IDE HDD Auto Detection feature, described later, to automatically enter the drive parameters of IDE hard disk drives in these fields. If you have only SCSI hard disk drives installed in your system leave the settings here at None. Only hard disk information needs to be entered here. Other IDE devices do not use this.

If you use the IDE HDD Auto Detection utility to supervise the auto-detection process, leave the drive items set to "None". You can also enter specifications manually by setting a line to the "User" option.

Large Hard Disk Modes

The last of the drive parameter entries – Mode – has four options, Normal, LBA, Large and Auto. The Mode settings are for IDE hard disks only.

Normal

For IDE hard disks of 528MB or less.

LBA

This stands for Logical Block Addressing, the current standard access mode for large IDE hard disk drives. It allows the use of hard disks larger than 528MB by causing the IDE controller to translate between the logical address it creates and the hard disk's actual physical address. The maximum drive size supported is 8.4GB.

Large

For 1GB or smaller drives with more than 1024 cylinders and no LBA support. This access mode causes the Operating System to treat the drive as if it has fewer than 1024 cylinders by dividing the cylinder total in half and doubling the number of heads. Drives needing this mode are less common.

Most large IDE hard disk drives currently available use the LBA mode. Use the AUTO setting to automatically detect the correct mode for new drives.

Floppy Disk Drives

The two floppy disk drive items set the drive type for drives A and B, and must be entered manually. The options are

360KB, 5.25 in.
1.2MB, 5.25 in.
720KB, 3.5 in.
1.44MB, 3.5 in.
2.88MB, 3.5 in.
None

Highlight the listing after each drive name and select the appropriate entry.

Floppy 3 Mode Support

3 Mode is a Japanese 3.5-inch floppy disk drive specification. If this type of drive is installed you should enable this feature. The default setting is Disabled.

Video Display Types

You set this according to the type of display card in your system. This should normally be left on EGA/VGA. The options are:

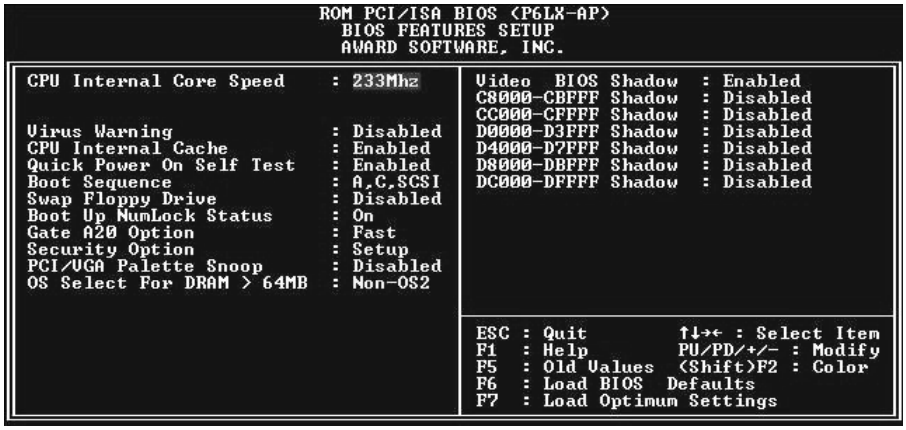
EGA/VGA
Mono (for Hercules or MDA)
CGA 40
CGA 80

Error Handling

The last line – Halt On – sets when the system stops if an error occurs. The options are:

All Errors (Default)
No Errors
All, But Keyboard
All, But Diskette
All, But Disk/Key

When you are finished in this section, exit to the main menu screen by pressing the Esc key.


ROM PCI/ISA BIOS (P6LX-AP)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.
CPU Internal Core Speed : 233Mhz
Virus Warning : Disabled
CPU Internal Cache : Enabled
Quick Power On Self Test : Enabled
Boot Sequence : A,C,SCSI
Swap Floppy Drive : Disabled
Boot Up NumLock Status : On
Gate A20 Option : Fast
Security Option : Setup
PCI/VGA Palette Snoop : Disabled
OS Select For DRAM > 64MB : Non-OS2
Video BIOS Shadow : Enabled
C8000-CBFFF Shadow : Disabled
CC000-CFFFF Shadow : Disabled
D0000-D3FFF Shadow : Disabled
D4000-D7FFF Shadow : Disabled
D8000-DBFFF Shadow : Disabled
DC000-DFFFF Shadow : Disabled
ESC : Quit
F1 : Help
F5 : Old Values
F6 : Load BIOS Defaults
F7 : Load Optimum Settings
↑↓→← : Select Item
PU/PD/+/- : Modify
(Shift)F2 : Color

BIOS Features Setup

To enter this section of the Setup program, highlight this menu item in the main menu and press the Enter key. The following screen will appear.

Menu Commands

If you look at the lower portion of the screen illustration you'll see a section that lists the control commands for this level of the program. You execute a command by pressing the key for that command. The program commands are :

Quit

This command will close the Setup program when you press the ESC key.

Help

This displays information about the highlighted item when you press the F1 key.

Select Item

You can use the arrow keys on your keyboard to move around the screen and select a menu item. An item is highlighted when it is selected.

Modify

To change the setting of a highlighted selection you can press either the Page Up (PU) and Page Down (PD) keys or the Plus (+) and Minus (–) keys. Pressing a key once will switch to the next setting option for the selected item.

Change Color

Change the program color scheme by pressing Shift + F2.

Old Values

If you make changes during the current session and you don't want to keep them you can recall the last set of saved values for this page by pressing the F5 key.

Load BIOS Defaults

Pressing F6 loads the BIOS Default settings for this page.

Load Optimum Settings

Pressing F7 loads the Optimum settings for this page.

If your mainboard is already installed in a working system the proper entries are already entered on this screen and you shouldn't change them.

CPU Internal Core Speed

This line sets the core speed of the installed Pentium II. The core speed is the CPU's operating speed. The external clock and multiplier are set automatically when you set this. You can set the speed to 233, 266 or 300MHz or set this to Manual, if for some reason you want to set the core speed manually.

When set to Manual and you can set the CPU Bus Frequency and Bus Frequency Multiple lines that appear to the combination you require. Doing this is not recommended.

Warning: If you set this line to a speed too fast for the installed CPU and the system will not function, turn off the system, remove and replace the CPU and then restart. The system will default to 133MHz and you can reset the CPU setting.

Virus Warning

This protects the primary hard disk's boot sector and partition table from infection. Any attempt to write to them will halt the system and produce a warning message. If this happens, you can either allow the system to continue or stop it and boot from a virus-free bootable floppy disk. Use an anti-virus utility on the floppy to check the hard disk. The default setting is Disabled.

CPU Internal Cache

This enables CPU's Level 1 built-in cache. Leave it enabled to maintain system performance. The default setting is Enabled.

Quick Power On Self Test

This feature speeds up the Power On Self Test (POST) by skipping some parts of the POST. If your system is functioning normally, you can enable this feature to speed the boot process. The default setting is Enabled.

Boot Sequence

This determines the order in which the computer checks drives for an operating system. In addition to the drive A: floppy disk drive and the drive C: boot hard disk, you can configure the order to include another IDE hard disk drive or CD-ROM drive, a SCSI device or an LS-120 or Zip drive.

Swap Floppy Drive

This switches the floppy drive assignments so that drive A is treated as drive B: and drive B: as drive A: under DOS. The default setting is Disabled.

Boot Up NumLock Status

This item allows you to select which mode the numeric keypad on an IBM-compatible extended keyboard is set to when the computer boots up. The options are:

On	– Numeric keypad mode	(Default)
Off	– Cursor control mode	

Gate A20 Option

This sets the gate A20 control. The two options are:

Fast – Recommended default
Normal

Security Option

This sets when password protection is active. The two options are:

System – Password required at boot up
Setup – Password controls access to Setup utility

You create a password using the Password Setting option in the main menu. With no password set, the system ignores this.

PCI/VGA Palette Snoop

If your video display card has an MPEG card attached to the feature connector, the display may invert to black on white while booting. If this happens, set this line to Enabled to correct the problem. The default setting is Disabled.

OS Select For DRAM >64MB

If your system has more than 64MB of system memory and the OS/2 operating system is in use, set this to the OS2 setting. The default setting, Non-OS2, is for all other operating systems.

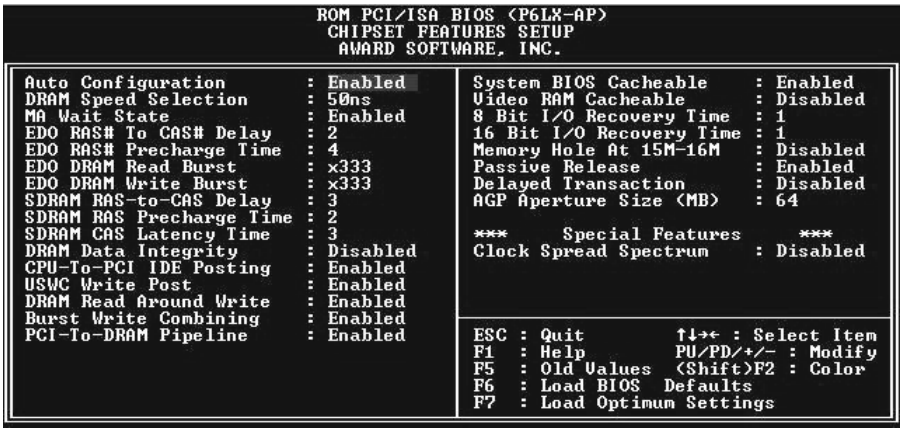
Video BIOS Shadow

This copies the video display card BIOS into system DRAM to increase display speed and is required for system performance. The default setting is Enabled.

Shadowing Address Ranges

The next six lines, from C8000-CBFFF Shadow to DC000-DFFFF Shadow are address ranges for shadowing other expansion card ROMs. If there are any expansion cards with ROMs installed in your system, you have to know the address range they use to shadow them specifically. The default setting for all of these is Disabled.

When you are done in this section press the Esc key to return to the main menu.


ROM PCI/ISA BIOS (P6LX-AP)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.
Auto Configuration : Enabled
DRAM Speed Selection : 50ns
MA Wait State : Enabled
EDO RAS# To CAS# Delay : 2
EDO RAS# Precharge Time : 4
EDO DRAM Read Burst : x333
EDO DRAM Write Burst : x333
SDRAM RAS-to-CAS Delay : 3
SDRAM RAS Precharge Time : 2
SDRAM CAS Latency Time : 3
DRAM Data Integrity : Disabled
CPU-To-PCI IDE Posting : Enabled
USWC Write Post : Enabled
DRAM Read Around Write : Enabled
Burst Write Combining : Enabled
PCI-To-DRAM Pipeline : Enabled
System BIOS Cacheable : Enabled
Video RAM Cacheable : Disabled
8 Bit I/O Recovery Time : 1
16 Bit I/O Recovery Time : 1
Memory Hole At 15M-16M : Disabled
Passive Release : Enabled
Delayed Transaction : Disabled
AGP Aperture Size (MB) : 64
*** Special Features ***
Clock Spread Spectrum : Disabled
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

Chipset Features Setup

To enter this section of the Setup program, highlight this menu item in the main menu and press the Enter key. The screen above will appear. Everything on this screen is either an optimum setting or set automatically when auto-configuration is active. Unless you know what you are doing, we recommend against making any manual settings in this section, with the exception of the Memory Hole, AGP Aperture Size and Special Features items.

Menu Commands

The menu commands for this screen are the same as for the BIOS Features Setup screen.

Auto Configuration

Auto-configuration will automatically set values in this section. If you disable auto-configuration you can set the DRAM timing values manually. The default setting is Enabled.

Memory Hole At 15M–16M

Some special add-on cards require a 1MB address space between 15 and 16MB. The documentation for this type of card should tell you if it needs this. The default setting is Disabled.

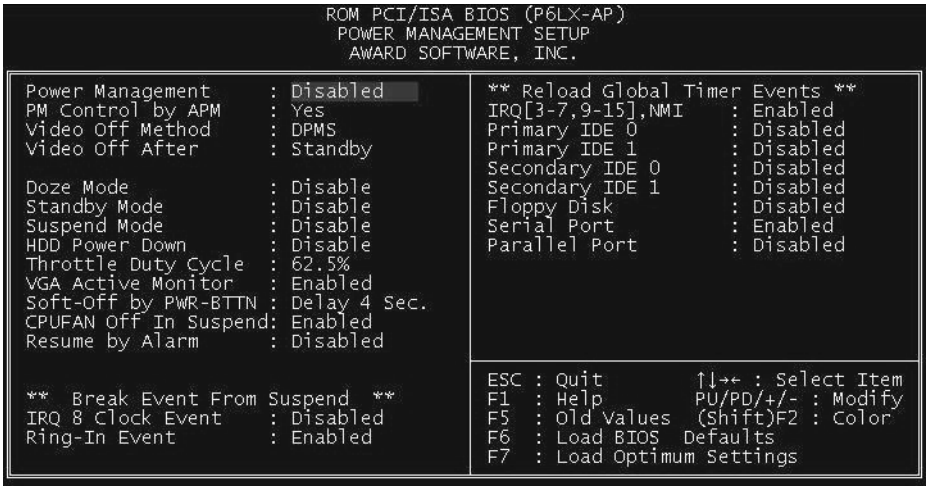
AGP Aperture Size

This item sets the maximum amount of system memory an AGP display card will use to store 3D texture mapping data. The larger the aperture, the better the performance of this 3D function. The settings range from 4MB to 256MB. The default setting is 64MB.

Special Features

If you set the Clock Spread Spectrumitem in this section to Enabled, the external bus clock will change to 68.5MHz, resulting in the CPU speed being slightly overclocked. This provides some system performance enhancement. This feature is not recommended for use with this mainboard. The default setting is Disabled.

To return to the main menu press the Esc key.


ROM PCI/ISA BIOS (P6LX-AP)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.
Power Management : Disabled
PM Control by APM : Yes
Video Off Method : DPMS
Video Off After : Standby
Doze Mode : Disable
Standby Mode : Disable
Suspend Mode : Disable
HDD Power Down : Disable
Throttle Duty Cycle : 62.5%
VGA Active Monitor : Enabled
Soft-Off by PWR-BTTN : Delay 4 Sec.
CPUFAN Off In Suspend: Enabled
Resume by Alarm : Disabled
** Break Event From Suspend **
IRQ 8 Clock Event : Disabled
Ring-In Event : Enabled
** Reload Global Timer Events **
IRQ[3-7,9-15],NMI : Enabled
Primary IDE 0 : Disabled
Primary IDE 1 : Disabled
Secondary IDE 0 : Disabled
Secondary IDE 1 : Disabled
Floppy Disk : Disabled
Serial Port : Enabled
Parallel Port : Disabled
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

Power Management Setup

To enter this section of the Setup program, highlight this menu item in the main menu and press the Enter key. The screen above will appear.

Menu Commands

The menu commands for this screen are the same as for the BIOS Features Setup screen.

What Power Management Does

Power management lets you set up your computer to save electricity when it is not actively in use by putting the system into progressively greater power saving modes. In the power management scheme there are four system states which proceed in the following sequence:

Normal

Doze

Standby

Suspend

Power Management

This controls the entire power management scheme. There are four settings:

User Defined

You set the power saving options manually

Disable

Turns off all power management

Max Saving

Maximizes power saving by activating maximum power saving settings after one minute of system inactivity

Min Saving

Produces less power saving by activating moderate power saving settings after one hour of system inactivity

PM Control By APM

When this is set to Yes the Advanced Power Management feature in Microsoft Windows controls power management operation. The default setting is No.

Video Off After

This governs when the video display gets turned off. The options are:

Suspend	Off after system enters Suspend mode
Standby	Off after system enters Standby mode
Doze	Off after system enters Doze mode
N/A	No display shut off

Doze Mode

This sets the period of system inactivity after which the system goes into Doze mode, the most limited power saving state. The settings range from 1 minute to 1 hour and can be set manually when power management is in User Define mode. The default setting is Disabled. When the system goes into power saving mode, power management will skip to the next mode in the sequence if this is disabled.

Standby Mode

This sets the period of system inactivity after which the system goes into Standby mode, the intermediate power saving state. The settings range from 1 minute to 1 hour and can be set manually when power management is in User Define mode. The default setting is Disabled. When the system goes into power saving mode, power management will skip to the next mode in the sequence if this is disabled.

Suspend Mode

This sets the period of system inactivity after which the system goes into Suspend mode, the maximum power saving state. The settings range from 1 minute to 1 hour and can be set manually when power management is in User Define mode. The default setting is Disabled. When the system goes into power saving mode, power management will skip to the next mode in the sequence if this is disabled.

HDD Power Down

This shuts down IDE hard disks that support a power saving mode after a specified time period. The settings range from 1 to 15 minutes and can be set manually when power management is in User Define mode. HDD Power Down does not affect SCSI hard disks. The default setting is Disabled.

The system automatically resumes from any power saving mode when there is system activity such as keyboard activity or an IRQ wake-up event like mouse movement or a modem ring.

Throttle Duty Cycle

This line sets the percentage by which the CPU speed is cut back when power saving initiates. The settings are:

62.5%	Default
75%	
87.5%	
12.5%	
25%	
37.5%	
50%	

VGA Active Monitor

When this line is set to the default, Enabled, the system will not initiate power saving while there is display activity. The other option is Disabled.

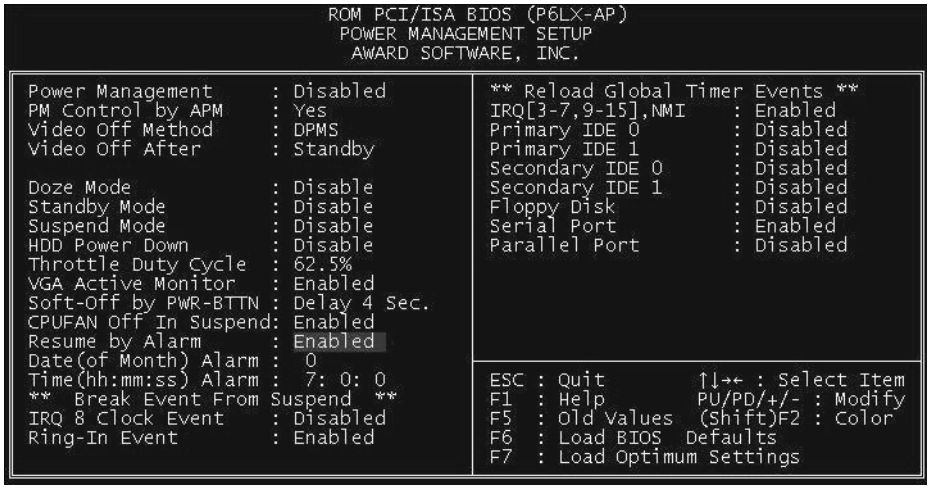
Soft-Off By PWR-BTTN

This line controls the function of a system power switch attached to the Power Button pins of the J16 connector. When set to the default, you must press the power switch for four seconds or more to turn the system off. Pressing it for less than four seconds will put the system into Suspend mode. If your system has a separate Suspend switch you can set this to Instant Off and the power switch will only function to turn the system on and off.

Delay 4 Sec.	Default
Instant Off	

Resume By Alarm

You can set the system to wake up at a certain date and time by setting this line to Enabled. When enabled, two more lines appear to allow you to set the wake-up date and time. The date is a day within the current calendar month. The screen on the next page illustrates this. The default setting is Disabled.


ROM PCI/ISA BIOS (P6LX-AP)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.
Power Management : Disabled
PM Control by APM : Yes
Video Off Method : DPMS
Video Off After : Standby
Doze Mode : Disable
Standby Mode : Disable
Suspend Mode : Disable
HDD Power Down : Disable
Throttle Duty Cycle : 62.5%
VGA Active Monitor : Enabled
Soft-Off by PWR-BTTN : Delay 4 Sec.
CPUFAN Off In Suspend: Enabled
Resume by Alarm : Enabled
Date(of Month) Alarm : 0
Time(hh:mm:ss) Alarm : 7: 0: 0
** Break Event From Suspend **
IRQ 8 Clock Event : Disabled
Ring-In Event : Enabled
** Reload Global Timer Events **
IRQ[3-7,9-15],NMI : Enabled
Primary IDE 0 : Disabled
Primary IDE 1 : Disabled
Secondary IDE 0 : Disabled
Secondary IDE 1 : Disabled
Floppy Disk : Disabled
Serial Port : Enabled
Parallel Port : Disabled
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

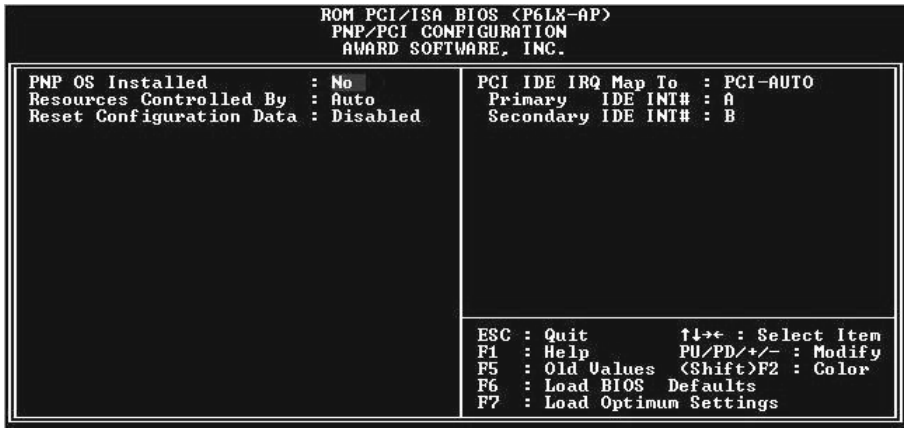
Break Event From Suspend

The two lines in this section control whether the system will wake-up if either of the events noted occur. The defaults are shown on the screen illustration on the next page.

Reload Global Timer Events

The system will restart the power saving count-down when an event generates from any of the items in this section that are set to Enabled. The defaults are shown above.

When you are finished in this section, press the Esc key to return to the main menu.

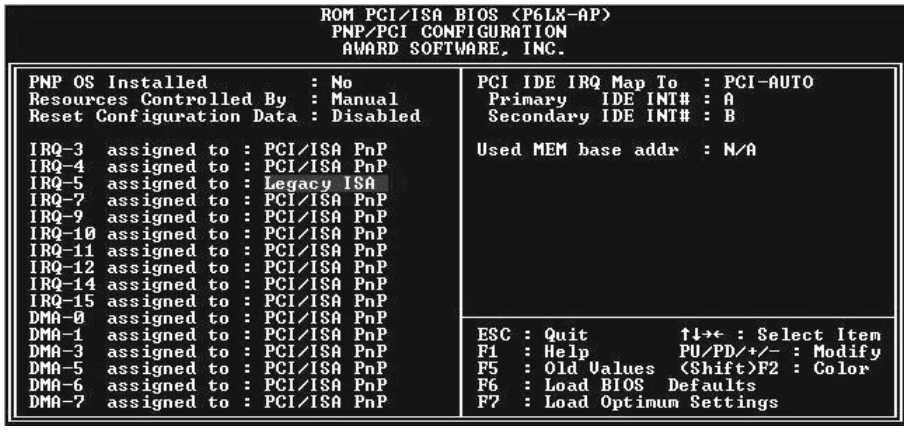

ROM PCI/ISA BIOS (P6LX-AP)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.
PNP OS Installed : No
Resources Controlled By : Auto
Reset Configuration Data : Disabled
PCI IDE IRQ Map To : PCI-AUTO
Primary IDE INT# : A
Secondary IDE INT# : B
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

PNP/PCI Configuration

To enter this section of the Setup program, highlight this menu item in the main menu and press the Enter key. The following screen will appear.

Menu Commands

The menu commands for this screen are the same as for the BIOS Features Setup screen.


ROM PCI/ISA BIOS (P6LX-AP)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.
PNP OS Installed : No
Resources Controlled By : Manual
Reset Configuration Data : Disabled
IRQ-3 assigned to : PCI/ISA PnP
IRQ-4 assigned to : PCI/ISA PnP
IRQ-5 assigned to : Legacy ISA
IRQ-7 assigned to : PCI/ISA PnP
IRQ-9 assigned to : PCI/ISA PnP
IRQ-10 assigned to : PCI/ISA PnP
IRQ-11 assigned to : PCI/ISA PnP
IRQ-12 assigned to : PCI/ISA PnP
IRQ-14 assigned to : PCI/ISA PnP
IRQ-15 assigned to : PCI/ISA PnP
DMA-0 assigned to : PCI/ISA PnP
DMA-1 assigned to : PCI/ISA PnP
DMA-3 assigned to : PCI/ISA PnP
DMA-5 assigned to : PCI/ISA PnP
DMA-6 assigned to : PCI/ISA PnP
DMA-7 assigned to : PCI/ISA PnP
PCI IDE IRQ Map To : PCI-AUTO
Primary IDE INT# : A
Secondary IDE INT# : B
Used MEM base addr : N/A
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

Resources Controlled By

When this line is set to Auto the BIOS will automatically configure IRQ and DMA resources. This is the recommended setting. If you set this line to Manual, the screen changes as shown above and allows manual configuration. In general you should only need to do this if you are installing an ISA card that requires manual configuration.

Reset Configuration Data

The default setting is 'Disabled'. If you need to clear the ESCD data, set this to 'Enabled'. The data will clear automatically and the BIOS will reset this line to the 'Disabled' setting.

PCI IDE IRQ Map To

Most of PCI IDE cards are non-PCI compliant. This line defines the IRQ Routing to make them work properly. The available settings are:

PCI-AUTO (default)
ISA
PCI-SLOT1
PCI-SLOT2
PCI-SLOT3
PCI-SLOT4

If you set this option to 'ISA', both the 'Primary IDE INT#' and 'Secondary IDE INT#' options below it will not appear on the screen.

Primary/Secondary IDE INT#

These define the primary/secondary IDE INT# of a PCI IDE card. The setting options are:

A (Primary IDE INT# default)
B (Secondary IDE INT# default)
C
D

When you are finished you can press the Esc key to return to the main menu.

Load BIOS Defaults

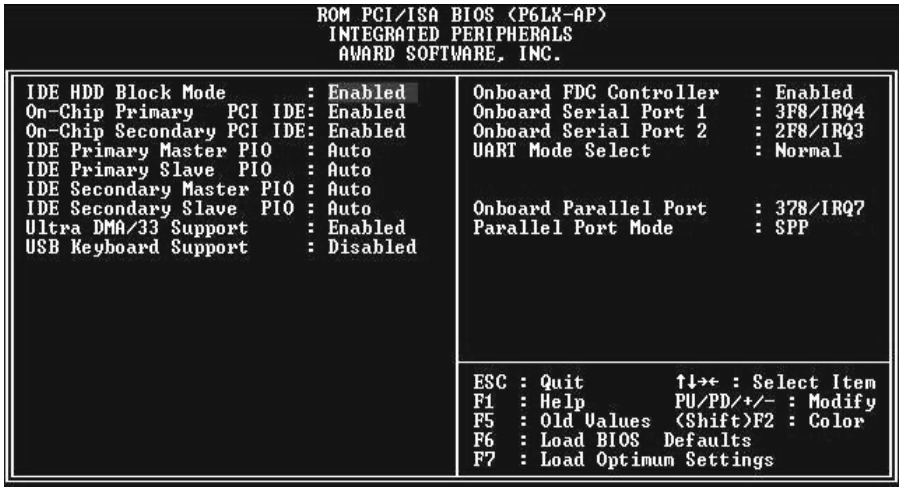
To use this command highlight it in the main menu and press Enter. A message will appear asking if you want to load the BIOS Defaults. Press the Y key and then the Enter key. The BIOS default settings will load. Press the N key if you want to cancel.

This loads a set of troubleshooting default values permanently stored in the BIOS ROM. The settings are not optimal and turn off all the performance features. Standard CMOS Setup is not affected by this command.

Load Optimum Settings

To use this command highlight it in the main menu and press Enter. A message will appear asking if you want to load the Optimum Settings. Press the Y key and then the Enter key. The optimum default settings will load. Press the N key if you want to cancel.

This loads a set of optimized default values permanently stored in the BIOS ROM. Use this command to load default settings for normal system operation. Standard CMOS Setup is not affected by this command.


ROM PCI/ISA BIOS (P6LX-AP)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.
IDE HDD Block Mode : Enabled
On-Chip Primary PCI IDE: Enabled
On-Chip Secondary PCI IDE: Enabled
IDE Primary Master PIO : Auto
IDE Primary Slave PIO : Auto
IDE Secondary Master PIO : Auto
IDE Secondary Slave PIO : Auto
Ultra DMA/33 Support : Enabled
USB Keyboard Support : Disabled
Onboard FDC Controller : Enabled
Onboard Serial Port 1 : 3F8/IRQ4
Onboard Serial Port 2 : 2F8/IRQ3
UART Mode Select : Normal
Onboard Parallel Port : 378/IRQ7
Parallel Port Mode : SPP
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

Integrated Peripherals

This section sets the IDE transfer mode for all IDE channels. It also configures the other onboard ports.

Menu Commands

The menu commands for this screen are the same as for the BIOS Features Setup screen.

IDE HDD Block Mode

Enables hard disk drive block transfer mode . The setting options are:

Enabled (default)
Disabled

On-Chip Primary/Secondary PCI IDE

Enables or Disables the Primary or Secondary PCI controllers. Selecting "Disabled" releases IRQ14 (for Primary) or IRQ15 (for Secondary).

Enabled (default)
Disabled

IDE Primary/Secondary Master/ Slave PIO

These four lines set the hard disk PIO transfer mode, which affects the hard disk data transfer rate. The system will auto-detect the PIO mode of a device in any of these positions when they are set to 'Auto', the recommended setting. Alternatively, you can set the mode manually. Modes 0 to 4 are supported.

Ultra DMA/33 Support

This line enables hard disk UltraDMA transfer mode support, which requires a drive that supports this data transfer method. The system will auto-detect an UltraDMA device in any of the four EIDE channels when they are set to 'Auto', the recommended setting. The default setting is Enabled. The other setting is Disabled. You can leave this set to Enabled without effect if there are no UltraDMA devices installed.

USB Keyboard Support

Enables or Disables support for a USB keyboard. Enable this if you connect a USB keyboard. The default is Disabled.

Onboard FDD Controller

Enables or Disables the onboard Floppy Drive controller.

Onboard Serial Port 1/2

Sets the I/O address for serial ports 1 & 2.

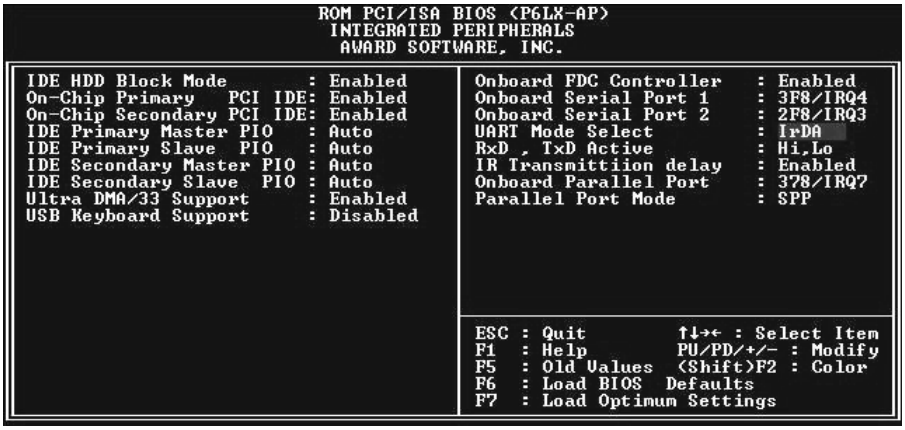
3F8/IRQ4	Onboard serial port COM1 default
2F8/IRQ3	Onboard serial port COM2 default
3E8/IRQ4	
2E8/IRQ3	
Disabled	

UART 2 Mode

Sets mode for the second serial port UART. If you select an IR module type, the second serial port will not be available. The setting options are:

Standard (default) – (used by COM2 serial port)
ASKIR
IrDA

The infrared mode you select here should be the same as the infrared module you are connected to the mainboard. You can also manually configure the Duplex, RxD and TxD settings if the defaults are not correct for the installed module. See the screen illustration on the next page.


ROM PCI/ISA BIOS (P6LX-AP)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.
IDE HDD Block Mode : Enabled
On-Chip Primary PCI IDE: Enabled
On-Chip Secondary PCI IDE: Enabled
IDE Primary Master PIO : Auto
IDE Primary Slave PIO : Auto
IDE Secondary Master PIO : Auto
IDE Secondary Slave PIO : Auto
Ultra DMA/33 Support : Enabled
USB Keyboard Support : Disabled
Onboard FDC Controller : Enabled
Onboard Serial Port 1 : 3F8/IRQ4
Onboard Serial Port 2 : 2F8/IRQ3
UART Mode Select : IrDA
RxD , TxD Active : Hi,Lo
IR Transmittiion delay : Enabled
Onboard Parallel Port : 378/IRQ7
Parallel Port Mode : SPP
ESC : Quit ↑↓→← : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Optimum Settings

Onboard Parallel Port

Sets the I/O address for the onboard parallel port. The setting options are:

378H/IRQ7 (default)
Disabled
278H/IRQ5
3BCH/IRQ7

If you set this option to 'Disabled', the next option, 'Onboard Parallel Mode', will not appear on the screen.

Onboard Parallel Mode

Selects the parallel port mode. The setting options are:

SPP (default)
ECP/EPP
EPP/SPP
ECP

If you set this option to 'SPP' or 'EPP/SPP', the 'ECP Mode Use DMA' option will not appear on the screen. If you set this option to 'SPP' or 'ECP', the 'Parallel Port EPP Type' option will not appear on the screen.

ECP Mode Use DMA

Selects the ECP Mode DMA channel. The setting options are:

3 (default)
1

Parallel Port EPP Type

Sets the EPP protocol version. The setting options are:

EPP 1.7 (default)
EPP 1.9

PC Health Monitor

To enter this section of the Setup program, highlight this menu item in the main menu and press the Enter key.

Menu Commands

The menu commands for this screen are the same as for the BIOS Features Setup screen.

What The Health Monitor Does

This section of the CMOS Setup utility is connected to the sensor technology on the mainboard. The sensor monitors the voltage and temperature status for the items listed on the screen.

There are two sections on the screen, Warning Messages and PC Status. The Warning Messages section has settings that control the monitoring function. The PC Status section displays the current status of the listed items as detected by the onboard sensor, including voltage readings and temperatures.

Warning Messages

This section of the screen lists the items monitored by the sensor and enables warning messages which appear during the POST (Power On Self Test), which runs when your computer is starting up. If the sensor detects a condition outside safe parameters during start-up, it will generate a warning message.

You can set the expected core voltage for the CPU under CPU Voltage. The options for the rest of the items listed are Enabled and Disabled.

The monitored items and default settings are:

**** Warning Messages ****	
CPU Core Voltage	Enabled
Vcc3 Voltage (3.52V)	Enabled
Vcc2 Voltage (2.5V)	Enabled
Vcc Voltage (5V)	Enabled
+12V Voltage	Enabled
–12V Voltage	Enabled
–5V Voltage	Enabled
CPU Fan	Disabled
Power Fan	Disabled
Chassis Fan	Disabled
Mainboard Temperature	Enabled
Chassis	Enabled

PC Status

When you call up the PC Health Monitor screen this section displays the current readings from the onboard sensor. The readings are for the same items as in the Warning Message list.

The last line, System Status indicates the current evaluation of the system state in terms of the monitored items listed. Under normal conditions it will display 'OK!' as the system status. If there is a problem a warning will appear.

Supervisor & User Password Settings

To use either of these commands, highlight one in the main menu and press Enter. A message will appear prompting you to enter a password.

Type in a password. The password is case sensitive, and can be up to 8 alphanumeric characters. Press Enter when you finish typing in the password.

If you typed in a password, the message "Confirm Password" will appear. Confirm the password by typing it again and pressing Enter. The message box will close.

If you decide you don't want to set a password after you activate this command, or if you want to eliminate an existing password, press Enter without typing anything else. The message "Password Disabled" will appear and the message box will close.

When you set a password, the Security Option line in BIOS Features Setup controls when the password is required. You can set the option to require the password when the system boots up or when calling up the CMOS Setup utility. The mainboard ships with no password.

IDE HDD Auto Detection

When you install an IDE hard drive, you can use this feature to automatically detect the drive parameters and enter them in the appropriate Hard Disk section of Standard CMOS Setup. However, since the Auto settings in Standard CMOS Setup perform the same function, you do not need to configure IDE hard disk drives from here. If you want to use this feature, highlight it in the main menu and press the Enter key.

Save And Exit Setup

When you select this and press Enter the values entered during the current session are recorded in CMOS memory.

Exit Without Saving

When you select this and press Enter the Setup Utility closes without recording any changes made during the current session.